APPENDIX B

22

Blast Result

NCBI Blast 2 Sequences results

PubMed   Entrez   BLAST   OMIM   Taxonomy   Structure
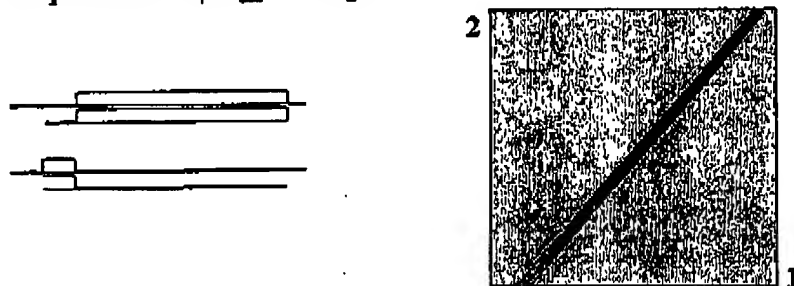
BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.4 [Aug-26-2002]

Match: 1   Mismatch: -2   gap open: 5   gap extension: 2

x_dropoff: 50   expect: 10000.   wordsize: 11   Filter ⊓

Sequence 1 lcl|seq_1 **Length** 6308 (1 .. 6308)

Sequence 2 lcl|seq_2 **Length** 5205 (1 .. 5205)

NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

```
Score = 8715 bits (4527), Expect = 0.0
Identities = 4529/4530 (99%)
 Strand = Plus / Plus
```

```
Query: 1416 gtcatatacagcctacaaagagctcttga ctgtgagctcgcagaggcccagttgcatacc 1475
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 676  gtcatatacagcctacaaagagctcttga ctgtgagctcgcagaggcccagttgcatacc 735


Query: 1476 actgccattgacaaagagggtcgtcgggc tgttaaagcgggagcttatgctgcttgccag 1535
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 736  actgccattgacaaagagggtcgtcgggc tgttaaagcgggagcttatgctgcttgccag 795


Query: 1536 gaagcaaaggaagatataaagagtcattc agaaaatgtctctcaacatccacttcatgta 1595
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 796  gaagcaaaggaagatataaagagtcattc agaaaatgtctctcaacatccacttcatgta 855


Query: 1596 gaagtattacactcagagattatggctca tcagaaatttgctttgcgtcttggttcctgg 1655
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 856  gaagtattacactcagagattatggctca tcagaaatttgctttgcgtcttggttcctgg 915


Query: 1656 atgaacaaaattatgagctattcaagtga ctttaggcagatcttttgccaagcatgcctt 1715
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 916  atgaacaaaattatgagctattcaagtga ctttaggcagatcttttgccaagcatgcctt 975
```

Received from < 3124741159 > at 5/27/03 9:43:31 PM [Eastern Daylight Time] cgi?

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Blast Result

```
Query: 1716  agagaagaacctgactcggagaatccctg tctcataagcaggttaatgctttgggatgca 1775
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct:  976  agagaagaacctgactcggagaatccctg tctcataagcaggttaatgctttgggatgca 1035


Query: 1776  aagctttataaaggtgcccgtaagatcct tcatgaattgatcttcagcagttttttttatg 1835
             ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Sbjct: 1036  aagctttataaaggtgcccgtaagatcct tcatgaattgatcttcagcagtttttttatg 1095


Query: 1836  gagatggaatacaaaaaactctttgctat ggaatttgtgaagtattataaacaactgcag 1895
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1096  gagatggaatacaaaaaactctttgctat ggaatttgtgaagtattataaacaactgcag 1155


Query: 1896  aaagaatatatcagtgatgatcatgacag aagtatctctataactgcactttcagttcag 1955
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1156  aaagaatatatcagtgatgatcatgacag aagtatctctataactgcactttcagttcag 1215


Query: 1956  atgtttactgttcctactctggctcgaca tcttattgaagagcagaatgttatctctgtc 2015
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1216  atgtttactgttcctactctggctcgaca tcttattgaagagcagaatgttatctctgtc 1275


Query: 2016  attactgaaactctgctagaagttttacc tgagtacttggacaggaacaataaattcaac 2075
             ||||||||||||||||||||||||||||| ||||||||||| |||||||||||||||||||
Sbjct: 1276  attactgaaactctgctagaagttttacc tgagtacttggacaggaacaataaattcaac 1335


Query: 2076  ttccagggttatagccaggacaaattggg aagagtatatgcagtaatatgtgacctaaag 2135
             |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 1336  ttccagggttatagccaggacaaattggg aagagtatatgcagtaatatgtgacctaaag 1395


Query: 2136  tatatcctgatcagcaaacccacaatatg gacagaaagattaagaatgcagttccttgaa 2195
             |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1396  tatatcctgatcagcaaacccacaatatg gacagaaagattaagaatgcagttccttgaa 1455


Query: 2196  ggttttcgatctttttttgaagattcttac ctgtatgcagggaatggaagaaatccgaaga 2255
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1456  ggttttcgatctttttttgaagattcttac ctgtatgcagggaatggaagaaatccgaaga 1515


Query: 2256  caggttgggcaacacattgaagtggatcc tgattgggaggctgccattgctatacagatg 2315
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1516  caggttgggcaacacattgaagtggatcc tgattgggaggctgccattgctatacagatg 1575


Query: 2316  caattgaagaatattttactcatgttcca agagtggtgtgcttgtgatgaagaactctta 2375
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1576  caattgaagaatattttactcatgttcca agagtggtgtgcttgtgatgaagaactctta 1635


Query: 2376  cttgtggcttataaagaatgtcacaaagc tgtgatgaggtgcagtaccagtttcatatct 2435
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 1636  cttgtggcttataaagaatgtcacaaagc tgtgatgaggtgcagtaccagtttcatatct 1695


Query: 2436  agtagcaagacagtagtacaatcgtgtgg acatagtttggaaacaaagtcctacagagta 2495
             |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
```

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Blast Result

Sbjct: 1696 agtagcaagacagtagtacaatcgtgtgg acatagtttggaaacaaagtcctacagagta 1755

Query: 2496 tctgaggatcttgtaagcatacatctgcc actctctaggacccttgctggtcttcatgta 2555
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 1756 tctgaggatcttgtaagcatacatctgcc actctctaggacccttgctggtcttcatgta 1815

Query: 2556 cgtttaagcaggctgggtgctgtttcaag actgcatgaatttgtgtcttttgaggacttt 2615
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 1816 cgtttaagcaggctgggtgctgtttcaag actgcatgaatttgtgtcttttgaggacttt 1875

Query: 2616 caagtagaggtactagtggaatatccttt acgttgtctggtgttggttgcccaggttgtt 2675
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 1876 caagtagaggtactagtggaatatccttt acgttgtctggtgttggttgcccaggttgtt 1935

Query: 2676 gctgagatgtggcgaagaaatggactgtc tcttattagccaggtgtttattaccaagat 2735
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 1936 gctgagatgtggcgaagaaatggactgtc tcttattagccaggtgtttattaccaagat 1995

Query: 2736 gttaagtgcagagaagaaatgtatgataa agatatcatcatgcttcagattggtgcatct 2795
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 1996 gttaagtgcagagaagaaatgtatgataa agatatcatcatgcttcagattggtgcatct 2055

Query: 2796 ttaatggatcccaataagttcttgttact ggtacttcagaggtatgaacttgccgaggct 2855
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2056 ttaatggatcccaataagttcttgttact ggtacttcagaggtatgaacttgccgaggct 2115

Query: 2856 tttaacaagaccatatctacaaaagacca ggatttgattaaacaatataatacactaata 2915
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2116 tttaacaagaccatatctacaaaagacca ggatttgattaaacaatataatacactaata 2175

Query: 2916 gaagaaatgcttcaggtcctcatctatat tgtgggtgagcgttatgtacctggagtggga 2975
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2176 gaagaaatgcttcaggtcctcatctatat tgtgggtgagcgttatgtacctggagtggga 2235

Query: 2976 aatgtgaccaaagaagaggtcacaatgag agaaatcattcacttgctttgcattgaaccc 3035
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2236 aatgtgaccaaagaagaggtcacaatgag agaaatcattcacttgctttgcattgaaccc 2295

Query: 3036 atgccacacagtgccattgccaaaaattt acctgagaatgaaaataatgaaactggctta 3095
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2296 atgccacacagtgccattgccaaaaattt acctgagaatgaaaataatgaaactggctta 2355

Query: 3096 gagaatgtcataaacaaagtggccacatt taagaaaccaggtgtatcaggccatggagtt 3155
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2356 gagaatgtcataaacaaagtggccacatt taagaaaccaggtgtatcaggccatggagtt 2415

Query: 3156 tatgaactaaaagatgaatcactgaaaga cttcaatatgtacttttatcattactccaaa 3215
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 2416 tatgaactaaaagatgaatcactgaaaga cttcaatatgtacttttatcattactccaaa 2475

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Blast Result

```
Query: 3216 acccagcatagcaaggctgaacatatgca gaagaaaaggagaaaacaagaaaacaaagat 3275
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2476 acccagcatagcaaggctgaacatatgca gaagaaaaggagaaaacaagaaaacaaagat 2535


Query: 3276 gaagcattgccgccaccaccacctcctga attctgccctgctttcagcaaagtgattaac 3335
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2536 gaagcattgccgccaccaccacctcctga attctgccctgctttcagcaaagtgattaac 2595


Query: 3336 cttctcaactgtgatatcatgatgtacat tctcaggaccgtatttgagcgggcaatagac 3395
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2596 cttctcaactgtgatatcatgatgtacat tctcaggaccgtatttgagcgggcaatagac 2655


Query: 3396 acagattctaacttgtggaccgaagggat gctccaaatggcttttcatattctggcattg 3455
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2656 acagattctaacttgtggaccgaagggat gctccaaatggcttttcatattctggcattg 2715


Query: 3456 ggtttactagaagagaagcaacagcttca aaaagctcctgaagaagaagtaacatttgac 3515
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2716 ggtttactagaagagaagcaacagcttca aaaagctcctgaagaagaagtaacatttgac 2775


Query: 3516 ttttatcataaggcttcaagattgggaag ttcagccatgaatatacaaatgcttttggaa 3575
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2776 ttttatcataaggcttcaagattgggaag ttcagccatgaatatacaaatgcttttggaa 2835


Query: 3576 aaactcaaaggaattccccagttagaagg ccagaaggacatgataacgtggatacttcag 3635
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2836 aaactcaaaggaattccccagttagaagg ccagaaggacatgataacgtggatacttcag 2895


Query: 3636 atgtttgacacagtgaagcgattaagaga aaaatcttgtttaattgtagcaaccacatca 3695
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2896 atgtttgacacagtgaagcgattaagaga aaaatcttgtttaattgtagcaaccacatca 2955


Query: 3696 ggatcggaatctattaagaatgatgagat tactcatgataaagaaaaagcagaacgaaaa 3755
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 2956 ggatcggaatctattaagaatgatgagat tactcatgataaagaaaaagcagaacgaaaa 3015


Query: 3756 agaaaagctgaagctgctaggctacatcg ccagaagatcatggctcagatgtctgcctta 3815
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3016 agaaaagctgaagctgctaggctacatcg ccagaagatcatggctcagatgtctgcctta 3075


Query: 3816 cagaaaaacttcattgaaactcataaact catgtatgacaatacatcagaaatgcctggg 3875
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3076 cagaaaaacttcattgaaactcataaact catgtatgacaatacatcagaaatgcctggg 3135


Query: 3876 aaagaagattccattatggaggaagagag cacccccagcagtcagtgactactctagaatt 3935
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3136 aaagaagattccattatggaggaagagag cacccccagcagtcagtgactactctagaatt 3195


Query: 3936 gctttggggtcctaaacggggtccatctgt tactgaaaaggaggtgctgacgtgcatcctt 3995
             ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3196 gctttggggtcctaaacggggtccatctgt tactgaaaaggaggtgctgacgtgcatcctt 3255
```

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Query: 3996 tgccaagaagaacaggaggtgaaaataga aaataatgccatggtattatcggcctgtgtc 4055
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3256 tgccaagaagaacaggaggtgaaaataga aaataatgccatggtattatcggcctgtgtc 3315

Query: 4056 cagaaatctactgccttaacccagcacag gggaaaacccatagaactctcaggagaagcc 4115
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3316 cagaaatctactgccttaacccagcacag gggaaaacccatagaactctcaggagaagcc 3375

Query: 4116 ctagacccactttcatggatccagactt ggcatatggaacttatacaggaagctgtggt 4175
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3376 ctagacccactttcatggatccagactt ggcatatggaacttatacaggaagctgtggt 3435

Query: 4176 catgtaatgcacgcagtgtgctggcagaa gtattttgaagctgtacagctgagctctcag 4235
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3436 catgtaatgcacgcagtgtgctggcagaa gtattttgaagctgtacagctgagctctcag 3495

Query: 4236 cagcgcattcatgttgaccttttttgactt ggaaagtggagaatatctttgccctctttgc 4295
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3496 cagcgcattcatgttgaccttttttgactt ggaaagtggagaatatctttgccctctttgc 3555

Query: 4296 aaatctctgtgcaatactgtgatccccat tattcctttgcaacctcaaaagataaacagt 4355
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3556 aaatctctgtgcaatactgtgatccccat tattcctttgcaacctcaaaagataaacagt 3615

Query: 4356 gagaatgcagatgctcttgctcaactttt gaccctggcacggtggatacagactgttctg 4415
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3616 gagaatgcagatgctcttgctcaactttt gaccctggcacggtggatacagactgttctg 3675

Query: 4416 gccagaatatcaggttataatataagaca tgctaaaggagaaaacccaattcctattttc 4475
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3676 gccagaatatcaggttataatataagaca tgctaaaggagaaaacccaattcctattttc 3735

Query: 4476 tttaatcaaggaatgggagattctacttt ggagttccattccatcctgagttttggcgtt 4535
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3736 tttaatcaaggaatgggagattctacttt ggagttccattccatcctgagttttggcgtt 3795

Query: 4536 gagtcttcgattaaatattcaaatagcat caaggaaatggttattctctttgccacaaca 4595
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3796 gagtcttcgattaaatattcaaatagcat caaggaaatggttattctctttgccacaaca 3855

Query: 4596 atttatagaattggattgaaagtgccacc tgatgaaagggatcctcgagtccccatgctg 4655
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3856 atttatagaattggattgaaagtgccacc tgatgaaagggatcctcgagtccccatgctg 3915

Query: 4656 acctggagcacctgcgctttcactatcca ggcaattgaaaatctattgggagatgaagga 4715
              ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 3916 acctggagcacctgcgctttcactatcca ggcaattgaaaatctattgggagatgaagga 3975

Query: 4716 aaacctctgtttggagcacttcaaaatag gcagcataatggtctgaaagcattaatgcag 4775

```
               ||||||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 3976   aaacctctgtttggagcacttcaaaatag gcagcataatggtctgaaagcattaatgcag 4035


Query: 4776   tttgcagttgcacagaggattacctgtcc tcaggtcctgatacagaaacatctggttcgt 4835
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4036   tttgcagttgcacagaggattacctgtcc tcaggtcctgatacagaaacatctggttcgt 4095


Query: 4836   cttctatcagttgttcttcctaacataaa atcagaagatacaccatgccttctgtctata 4895
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4096   cttctatcagttgttcttcctaacataaa atcagaagatacaccatgccttctgtctata 4155


Query: 4896   gatctgtttcatgttttggtgggtgctgt gttagcattcccatccttgtattgggatgac 4955
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4156   gatctgtttcatgttttggtgggtgctgt gttagcattcccatccttgtattgggatgac 4215


Query: 4956   cctgttgatctgcagccttcttcagttag ttcttcctataaccacctttatctcttccat 5015
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4216   cctgttgatctgcagccttcttcagttag ttcttcctataaccacctttatctcttccat 4275


Query: 5016   ttgatcaccatggcacacatgcttcagat actacttacagtagacacaggcctacccctt 5075
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4276   ttgatcaccatggcacacatgcttcagat actacttacagtagacacaggcctacccctt 4335


Query: 5076   gctcaggttcaagaagacagtgaagaggc tcattccgcatcttctttctttgcagaaatt 5135
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4336   gctcaggttcaagaagacagtgaagaggc tcattccgcatcttctttctttgcagaaatt 4395


Query: 5136   tctcaatatacaagtggctccattgggtg tgatattcctggctggtatttgtgggtctca 5195
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4396   tctcaatatacaagtggctccattgggtg tgatattcctggctggtatttgtgggtctca 4455


Query: 5196   ctgaagaatggcatcaccccttatcttcg ctgtgctgcattgttttccactatttactt 5255
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4456   ctgaagaatggcatcaccccttatcttcg ctgtgctgcattgttttccactatttactt 4515


Query: 5256   ggggtaactccgcctgaggaactgcatac caattctgcagaaggagagtacagtgcactc 5315
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4516   ggggtaactccgcctgaggaactgcatac caattctgcagaaggagagtacagtgcactc 4575


Query: 5316   tgtagctatctatctttacctacaaattt gttcctgctcttccaggaatattgggatact 5375
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4576   tgtagctatctatctttacctacaaattt gttcctgctcttccaggaatattgggatact 4635


Query: 5376   gtaaggcccttgctccagaggtggtgtgc agatcctgccttactaaactgtttgaagcaa 5435
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4636   gtaaggcccttgctccagagggggtgtgc agatcctgccttactaaactgtttgaagcaa 4695


Query: 5436   aaaaacaccgtggtcaggtaccctagaaa aagaaatagtttgatagagcttcctgatgac 5495
              ||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Sbjct: 4696   aaaaacaccgtggtcaggtaccctagaaa aagaaatagtttgatagagcttcctgatgac 4755
```

```
Query:  5496  tatagctgcctcctgaatcaagcttctca  tttcaggtgcccacggtctgcagatgatgag  5555
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  4756  tatagctgcctcctgaatcaagcttctca  tttcaggtgcccacggtctgcagatgatgag  4815


Query:  5556  cgaaagcatcctgtcctctgccttttctg  tggggctatactatgttctcagaacatttgc  5615
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  4816  cgaaagcatcctgtcctctgccttttctg  tggggctatactatgttctcagaacatttgc  4875


Query:  5616  tgccaggaaattgtgaacggggaagaggt  tggagcttgcattttcacgcacttcactgt  5675
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  4876  tgccaggaaattgtgaacggggaagaggt  tggagcttgcattttcacgcacttcactgt  4935


Query:  5676  ggagccggagtctgcattttcctaaaaat  cagagaatgccgagtggtcctggttgaaggt  5735
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  4936  ggagccggagtctgcattttcctaaaaat  cagagaatgccgagtggtcctggttgaaggt  4995


Query:  5736  aaagccagaggctgtgcctatccagctcc  ttacttggatgaatatggagaaacagaccct  5795
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  4996  aaagccagaggctgtgcctatccagctcc  ttacttggatgaatatggagaaacagaccct  5055


Query:  5796  ggcctgaagaggggcaacccccttcattt  atctcgtgagcggtatcggaagctccatttg  5855
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  5056  ggcctgaagaggggcaacccccttcattt  atctcgtgagcggtatcggaagctccatttg  5115


Query:  5856  gtctggcaacaacactgcattatagaaga  gattgctaggagccaagagactaatcagatg  5915
              |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  5116  gtctggcaacaacactgcattatagaaga  gattgctaggagccaagagactaatcagatg  5175


Query:  5916  ttatttggattcaactggcagttactgtg  a  5945
              |||||||||||||||||||||||||||||  |
Sbjct:  5176  ttatttggattcaactggcagttactgtg  a  5205
```

Score = 1271 bits (660), Expect = 0.0
Identities = 660/660 (100%)
 Strand = Plus / Plus

```
Query:  696  atggcggacgaggaggctggaggtactga  gaggatggaaatcagcgcggagttaccccag  755
             |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  1    atggcggacgaggaggctggaggtactga  gaggatggaaatcagcgcggagttaccccag  60


Query:  756  acccctcagcgtctggcatcttggtggga  tcagcaagttgattttttatactgctttcttg  815
             |||||||||||||||||||||||||||||  ||||||||||||||||||||||||||||||||
Sbjct:  61   acccctcagcgtctggcatcttggtggga  tcagcaagttgattttttatactgctttcttg  120


Query:  816  catcatttggcacaattggtgccagaaat  ttactttgctgaaatggacccagacttggaa  875
             |||||||||||||||||||||||||||||  |||||||||||||||||||||||||||||||
Sbjct:  121  catcatttggcacaattggtgccagaaat  ttactttgctgaaatggacccagacttggaa  180


Query:  876  aagcaggaggaaagtgtacaaatgtcaat  attcactccactggaatggtacttatttgga  935
```

Blast Result

```
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 181  aagcaggaggaaagtgtacaaatgtcaat attcactccactggaatggtacttatttgga 240


Query: 936  gaagatccagatatttgcttagagaaatt gaagcacagtggagcatttcagctttgtggg 995
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 241  gaagatccagatatttgcttagagaaatt gaagcacagtggagcatttcagctttgtggg 300


Query: 996  agggttttcaaaagtggagagacaaccta ttcttgcagggattgtgcaattgatccaaca 1055
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 301  agggttttcaaaagtggagagacaaccta ttcttgcagggattgtgcaattgatccaaca 360


Query: 1056 tgtgtactctgtatggactgcttccagga cagtgttcataaaaatcatcgttacaagatg 1115
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 361  tgtgtactctgtatggactgcttccagga cagtgttcataaaaatcatcgttacaagatg 420


Query: 1116 catacttctactggaggagggttctgtga ctgtggagacacagaggcatggaaaactggc 1175
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 421  catacttctactggaggagggttctgtga ctgtggagacacagaggcatggaaaactggc 480


Query: 1176 ccttttgtgtaaatcatgaacctggaag agcaggtactataaaagagaattcacgctgt 1235
            |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||
Sbjct: 481  ccttttgtgtaaatcatgaacctggaag agcaggtactataaaagagaattcacgctgt 540


Query: 1236 ccgttgaatgaagaggtaattgtccaagc caggaaaatatttccttcagtgataaaatat 1295
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 541  ccgttgaatgaagaggtaattgtccaagc caggaaaatatttccttcagtgataaaatat 600


Query: 1296 gtcgtagaaatgactatatgggaagagga aaaagaactgcctcctgaactccagataagg 1355
            ||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Sbjct: 601  gtcgtagaaatgactatatgggaagagga aaaagaactgcctcctgaactccagataagg 660
```

CPU time: 0.17 user secs.   0.04 sys. secs   0.21 total secs.

Lambda   K   H
    1.33   0.621   1.13

Gapped
Lambda   K   H
    1.33   0.621   1.13

Matrix: blastn matrix:1 -2
Gap Penalties: Existence: 5, Extension: 2
Number of Hits to DB: 31
Number of Sequences: 0
Number of extensions: 31
Number of successful extensions: 6
Number of sequences better than 10000.0: 1
length of query: 5205
length of database: 7,880,065,999
effective HSP length: 26
effective length of query: 5179
effective length of database: 7,880,065,9 73
effective search space: 40810861674167
effective search space used: 40810861674167
T: 0

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Blast Result

A: 0
X1: 6 (11.6 bits)
X2: 25 (48.1 bits)
S1: 12 (23.8 bits)
S2: 17 (33.4 bits)

D

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NCBI **Blast 2 Sequences results**

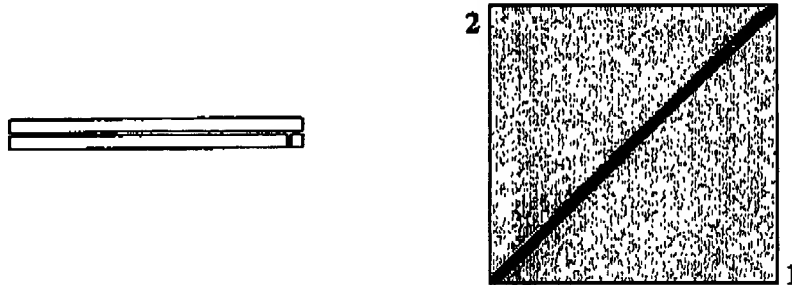**BLAST 2 SEQUENCES RESULTS VERSION BLASTP 2.2.4 [Aug-26-2002]**

Matrix BLOSUM62 gap open: 11 gap extension: 1

x_dropoff: 50 expect: 10000 wordsize: 3 Filter ☐

Sequence 1 lcl|seq_1 **Length 1749 (1 .. 1749)**

Sequence 2 lcl|seq_2 **Length 1734 (1 .. 1734)**

NOTE:The statistics (bitscore and expect value) is calculated based on the size of nr database

```
Score = 3500 bits (9076), Expect = 0.0
Identities = 1728/1749 (98%), Positives = 1728/1749 (98%), Gaps = 20/1749 (1%)
```



```
Query: 1    MADEEAGGTERMEISAELPQTPQRLASWW DQQVDFYTAFLHHLAQLVPEIYFAEMDPDLE 60
            MADEEAGGTERMEISAELPQTPQRLASWW DQQVDFYTAFLHHLAQLVPEIYFAEMDPDLE
Sbjct: 6    MADEEAGGTERMEISAELPQTPQRLASWW DQQVDFYTAFLHHLAQLVPEIYFAEMDPDLE 65

Query: 61   KQEESVQMSIFTPLEWYLFGEDPDICLEK LKHSGAFQLCGRVFKSGETTYSCRDCAIDPT 120
            KQEESVQMSIFTPLEWYLFGEDPDICLEK LKHSGAFQLCGRVFKSGETTYSCRDCAIDPT
Sbjct: 66   KQEESVQMSIFTPLEWYLFGEDPDICLEK LKHSGAFQLCGRVFKSGETTYSCRDCAIDPT 125

Query: 121  CVLCMDCFQDSVHKNHRYKMHTSTGGGFC DCGDTEAWKTGPFCVNHEPGRAGTIKENSRC 180
            CVLCMDCFQDSVHKNHRYKMHTSTGGGFC DCGDTEAWKTGPFCVNHEPGRAGTIKENSRC
Sbjct: 126  CVLCMDCFQDSVHKNHRYKMHTSTGGGFC DCGDTEAWKTGPFCVNHEPGRAGTIKENSRC 185

Query: 181  PLNEEVIVQARKIFPSVIKYVVEMTIWEE EKELPPELQIREKNERYYCVLFNDEHHSYDH 240
            PLNEEVIVQARKIFPSVIKYVVEMTIWEE EKELPPELQIREKNERYYCVLFNDEHHSYDH
Sbjct: 186  PLNEEVIVQARKIFPSVIKYVVEMTIWEE EKELPPELQIREKNERYYCVLFNDEHHSYDH 245

Query: 241  VIYSLQRALDCELAEAQLHTTAIDKEGRR AVKAGAYAACQEAKEDIKSHSENVSQHPLHV 300
            VIYSLQRALDCELAEAQLHTTAIDKEGRR AVKAGAYAACQEAKEDIKSHSENVSQHPLHV
Sbjct: 246  VIYSLQRALDCELAEAQLHTTAIDKEGRR AVKAGAYAACQEAKEDIKSHSENVSQHPLHV 305

Query: 301  EVLHSEIMAHQKFALRLGSWMNKIMSYSS DFRQIFCQACLREEPDSENPCLISRLMLWDA 360
            EVLHSEIMAHQKFALRLGSWMNKIMSYSS DFRQIFCQACLREEPDSENPCLISRLMLWDA
Sbjct: 306  EVLHSEIMAHQKFALRLGSWMNKIMSYSS DFRQIFCQACLREEPDSENPCLISRLMLWDA 365

Query: 361  KLYKGARKILHELIFSSFFMEMEYKKLFA MEFVKYYKQLQKEYISDDHDRSISITALSVQ 420
            KLYKGARKILHELIFSSFFMEMEYKKLFA MEFVKYYKQLQKEYISDDHDRSISITALSVQ
Sbjct: 366  KLYKGARKILHELIFSSFFMEMEYKKLFA MEFVKYYKQLQKEYISDDHDRSISITALSVQ 425

Query: 421  MFTVPTLARHLIEEQNVISVITETLLEVL PEYLDRNNKFNFQGYSQDKLGRVYAVICDLK 480
```

```
                MFTVPTLARHLIEEQNVISVITETLLEVL PEYLDRNNKFNFQGYSQDKLGRVYAVICDLK
Sbjct:  426     MFTVPTLARHLIEEQNVISVITETLLEVL PEYLDRNNKFNFQGYSQDKLGRVYAVICDLK 485

Query:  481     YILISKPTIWTERLRMQFLEGFRSFLKIL TCMQGMEEIRRQVGQHIEVDPDWEAAIAIQM 540
                YILISKPTIWTERLRMQFLEGFRSFLKIL TCMQGMEEIRRQVGQHIEVDPDWEAAIAIQM
Sbjct:  486     YILISKPTIWTERLRMQFLEGFRSFLKIL TCMQGMEEIRRQVGQHIEVDPDWEAAIAIQM 545

Query:  541     QLKNILLMFQEWCACDEELLLVAYKECHK AVMRCSTSFISSSKTVVQSCGHSLETKSYRV 600
                QLKNILLMFQEWCACDEELLLVAYKECHK AVMRCSTSFISSSKTVVQSCGHSLETKSYRV
Sbjct:  546     QLKNILLMFQEWCACDEELLLVAYKECHK AVMRCSTSFISSSKTVVQSCGHSLETKSYRV 605

Query:  601     SEDLVSIHLPLSRTLAGLHVRLSRLGAVS RLHEFVSFEDFQVEVLVEYPLRCLVLVAQVV 660
                SEDLVSIHLPLSRTLAGLHVRLSRLGAVS RLHEFVSFEDFQVEVLVEYPLRCLVLVAQVV
Sbjct:  606     SEDLVSIHLPLSRTLAGLHVRLSRLGAVS RLHEFVSFEDFQVEVLVEYPLRCLVLVAQVV 665

Query:  661     AEMWRRNGLSLISQVFYYQDVKCREEMYD KDIIMLQIGASLMDPNKFLLLVLQRYELAEA 720
                AEMWRRNGLSLISQVFYYQDVKCREEMYD KDIIMLQIGASLMDPNKFLLLVLQRYELAEA
Sbjct:  666     AEMWRRNGLSLISQVFYYQDVKCREEMYD KDIIMLQIGASLMDPNKFLLLVLQRYELAEA 725

Query:  721     FNKTISTKDQDLIKQYNTLIEEMLQVLIY IVGERYVPGVGNVTKEEVTMREIIHLLCIEP 780
                FNKTISTKDQDLIKQYNTLIEEMLQVLIY IVGERYVPGVGNVTKEEVTMREIIHLLCIEP
Sbjct:  726     FNKTISTKDQDLIKQYNTLIEEMLQVLIY IVGERYVPGVGNVTKEEVTMREIIHLLCIEP 785

Query:  781     MPHSAIAKNLPENENNETGLENVINKVAT FKKPGVSGHGVYELKDESLKDFNMYFYHYSK 840
                MPHSAIAKNLPENENNETGLENVINKVAT FKKPGVSGHGVYELKDESLKDFNMYFYHYSK
Sbjct:  786     MPHSAIAKNLPENENNETGLENVINKVAT FKKPGVSGHGVYELKDESLKDFNMYFYHYSK 845

Query:  841     TQHSKAEHMQKKRRKQENKDEALPPPPPPEFCPAFSKVINL LNCDIMMYILRTVFERAID 900
                TQHSKAEHMQKKRRKQENKDEALPPPPPP EFCPAFSKVINLLNCDIMMYILRTVFERAID
Sbjct:  846     TQHSKAEHMQKKRRKQENKDEALPPPPPP EFCPAFSKVINLLNCDIMMYILRTVFERAID 905

Query:  901     TDSNLWTEGMLQMAFHILALGLLEEKQQL QKAPEEEVTFDFYHKASRLGSSAMNIQMLLE 960
                TDSNLWTEGMLQMAFHILALGLLEEKQQL QKAPEEEVTFDFYHKASRLGSSAMNIQMLLE
Sbjct:  906     TDSNLWTEGMLQMAFHILALGLLEEKQQL QKAPEEEVTFDFYHKASRLGSSAMNIQMLLE 965

Query:  961     KLKGIPQLEGQKDMITWILQMFDTVKRLR EKSCLIVATTSGSESIKNDEITHDKEKAERK 1020
                KLKGIPQLEGQKDMITWILQMFDTVKRLR EKSCLIVATTSGSESIKNDEITHDKEKAERK
Sbjct:  966     KLKGIPQLEGQKDMITWILQMFDTVKRLR EKSCLIVATTSGSESIKNDEITHDKEKAERK 1025

Query: 1021     RKAEAARLHRQKIMAQMSALQKNFIETHK LMYDNTSEMPGKEDSIMEEESTPAVSDYSRI 1080
                RKAEAARLHRQKIMAQMSALQKNFIETHK LMYDNTSEMPGKEDSIMEEESTPAVSDYSRI
Sbjct: 1026     RKAEAARLHRQKIMAQMSALQKNFIETHK LMYDNTSEMPGKEDSIMEEESTPAVSDYSRI 1085

Query: 1081     ALGPKRGPSVTEKEVLTCILCQEEQEVKI ENNAMVLSACVQKSTALTQHRGKPIELSGEA 1140
                ALGPKRGPSVTEKEVLTCILCQEEQEVKI ENNAMVLSACVQKSTALTQHRGKPIELSGEA
Sbjct: 1086     ALGPKRGPSVTEKEVLTCILCQEEQEVKI ENNAMVLSACVQKSTALTQHRGKPIELSGEA 1145

Query: 1141     LDPLFMDPDLAYGTYTGSCGHVMHAVCWQ KYFEAVQLSSQQRIHVDLFDLESGEYLCPLC 1200
                LDPLFMDPDLAYGTYTGSCGHVMHAVCWQ KYFEAVQLSSQQRIHVDLFDLESGEYLCPLC
Sbjct: 1146     LDPLFMDPDLAYGTYTGSCGHVMHAVCWQ KYFEAVQLSSQQRIHVDLFDLESGEYLCPLC 1205

Query: 1201     KSLCNTVIPIIPLQPQKINSENADALAQL LTLARWIQTVLARISGYNIRHAKGENPIPIF 1260
                KSLCNTVIPIIPLQPQKINSENADALAQL LTLARWIQTVLARISGYNIRHAKGENPIPIF
Sbjct: 1206     KSLCNTVIPIIPLQPQKINSENADALAQL LTLARWIQTVLARISGYNIRHAKGENPIPIF 1265

Query: 1261     FNQGMGDSTLEFHSILSFGVESSIKYSNS IKEMVILFATTIYRIGLKVPPDERDPRVPML 1320
                FNQGMGDSTLEFHSILSFGVESSIKYSNS IKEMVILFATTIYRIGLKVPPDERDPRVPML
Sbjct: 1266     FNQGMGDSTLEFHSILSFGVESSIKYSNS IKEMVILFATTIYRIGLKVPPDERDPRVPML 1325

Query: 1321     TWSTCAFTIQAIENLLGDEGKPLFGALQN RQHNGLKALMQFAVAQRITCPQVLIQKHLVR 1380
                TWSTCAFTIQAIENLLGDEGKPLFGALQN RQHNGLKALMQFAVAQRITCPQVLIQKHLVR
Sbjct: 1326     TWSTCAFTIQAIENLLGDEGKPLFGALQN RQHNGLKALMQFAVAQRITCPQVLIQKHLVR 1385
```

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Blast Result

```
Query: 1381  LLSVVLPNIKSEDTPCLLSIDLFHVLVGA VLAFPSLYWDDPVDLQPSSVSSSYNHLYLFH 1440
             LLSVVLPNIKSEDTPCLLSIDLFHVLVGA VLAFPSLYWDDPVDLQPSSVSSSYNHLYLFH
Sbjct: 1386  LLSVVLPNIKSEDTPCLLSIDLFHVLVGA VLAFPSLYWDDPVDLQPSSVSSSYNHLYLFH 1445


Query: 1441  LITMAHMLQILLTVDTGLPLAQVQEDSEE AHSASSFFAEISQYTSGSIGCDIPGWYLWVS 1500
             LITMAHMLQILLTVDTGLPLAQVQEDSEE AHSASSFFAEISQYTSGSIGCDIPGWYLWVS
Sbjct: 1446  LITMAHMLQILLTVDTGLPLAQVQEDSEE AHSASSFFAEISQYTSGSIGCDIPGWYLWVS 1505


Query: 1501  LKNGITPYLRCAALFFHYLLGVTPPEELH TNSAEGEYSALCSYLSLPTNLFLLFQEYWDT 1560
             LKNGITPYLRCAALFFHYLLGVTPPEELH TNSAEGEYSALCSYLSLPTNLFLLFQEYWDT
Sbjct: 1506  LKNGITPYLRCAALFFHYLLGVTPPEELH TNSAEGEYSALCSYLSLPTNLFLLFQEYWDT 1565


Query: 1561  VRPLLQRWCADPALLNCLKQKNTVVRYPR KRNSLIELPDDYSCLLNQASHFRCPRSADDE 1620
             VRPLLQR CADPALLNCLKQKNTVVRYPR KRNSLIELPDDYSCLLNQASHFRCPRSADDE
Sbjct: 1566  VRPLLQRRCADPALLNCLKQKNTVVRYPR KRNSLIELPDDYSCLLNQASHFRCPRSADDE 1625


Query: 1621  RKHPVLCLFCGAILCSQNICCQEIVNGEE VGACIFHALHCGAGVCIFLKIRECRVVLVEG 1680
             RKHPVLCLFCGAILCSQNICCQEIVNGEE VGACIFHALHC
Sbjct: 1626  RKHPVLCLFCGAILCSQNICCQEIVNGEE VGACIFHALHC------------------ 1665


Query: 1681  KARGCAYPAPYLDEYGETDPGLKRGNPLH LSRERYRKLHLVWQQHCIIEEIARSQETNQM 1740
             KARGCAYPAPYLDEYGETDPGLKRGNPLH LSRERYRKLHLVWQQHCIIEEIARSQETNQM
Sbjct: 1666  KARGCAYPAPYLDEYGETDPGLKRGNPLH LSRERYRKLHLVWQQHCIIEEIARSQETNQM 1725


Query: 1741  LFGFNWQLL 1749
             LFGFNWQLL
Sbjct: 1726  LFGFNWQLL 1734
```

CPU time: 0.59 user secs.   0.04 sys. secs   0.63 total secs.

```
Lambda      K         H
  0.321     0.136     0.411

Gapped
Lambda      K         H
  0.267     0.0410    0.140
```

Matrix: BLOSUM62
Gap Penalties: Existence: 11, Extension: 1
Number of Hits to DB: 29,922
Number of Sequences: 0
Number of extensions: 2080
Number of successful extensions: 6
Number of sequences better than 10000.0: 1
Number of HSP's better than 10000.0 without gapping: 1
Number of HSP's successfully gapped in prelim test: 0
Number of HSP's that attempted gapping in prelim test: 0
Number of HSP's gapped (non-prelim): 1
length of query: 1734
length of database: 429,858,829
effective HSP length: 141
effective length of query: 1593
effective length of database: 429,858,688
effective search space: 684764889984
effective search space used: 684764889984
T: 9
A: 40
X1: 16 (7.4 bits)
X2: 129 (49.7 bits)
X3: 129 (49.7 bits)
S1: 41 (21.9 bits)
S2: 56 (26.2 bits)

http://www.ncbi.nlm.nih.gov/blast/bl2seq/wblast2.cgi?

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Blast Result

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